

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
28 October 2004 (28.10.2004)

PCT

(10) International Publication Number  
**WO 2004/092528 A3**

(51) International Patent Classification<sup>7</sup>: **E21B 23/02**

(21) International Application Number:  
PCT/US2004/010762

(22) International Filing Date: 6 April 2004 (06.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/461,038 7 April 2003 (07.04.2003) US

(71) Applicant (for all designated States except US): **ENVEN-  
TURE GLOBAL TECHNOLOGY [US/US];** 16200 A  
Park Row, Houston, TX 77084 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BRISCO, David,**  
Paul [US/US]; 405 Westridge Drive, Duncan, OK 73533  
(US). **WATSON, Brock, Wayne [US/US];** 2535 Marsh  
Lane #1004, Carrollton, TX 75006 (US). **TREECE,**  
Harold [US/US]; 213 Ridgecrest Drive, Duncan, OK  
73533 (US).

(74) Agent: **MATTINGLY, Todd;** Haynes and Boone, LLP,  
Suite 3100, 901 Main Street, Dallas, TX 75202 (US).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-  
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,  
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,  
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

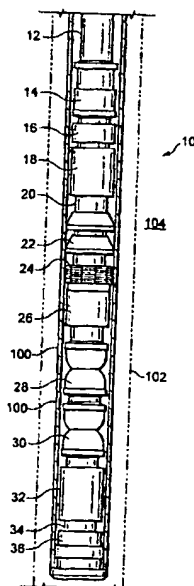
— with international search report

— before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
10 November 2005

[Continued on next page]

(54) Title: APPARATUS FOR RADIALY EXPANDING AND PLASTICALLY DEFORMING A TUBULAR MEMBER



(57) Abstract: An apparatus for radially expanding and plastically deforming a tubular member.

WO 2004/092528 A3

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/10762

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : E21B 23/02  
US CL : 166/207,55.7

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
U.S. : 166/207,55.7,380,384

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
None

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005/0056433 A1 (RING et al) 17 March 2005 (17/03/05), see entire document.	1-75

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

02 August 2005 (02.08.2005)

Date of mailing of the international search report

01 SEP 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

William P. Neuder

Telephone No. 571-272-3600

**INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/US04/10762

Continuation of B. FIELDS SEARCHED Item 3:  
EAST  
search terms: Radially adj expanding and cutting